

REMARKS

This is in response to the Office Action dated June 30, 2004. Claims 12 and 14-15 are pending.

The units (Ω/\square) for sheet resistance in the instant specification are objected to in paragraph 2 of the Office Action. In particular, the Office Action states that " \square " is unrecognized. This objection is respectfully traversed. In particular, " \square " **means square**. Sheet resistance is almost always measured in units of ohms/square. Those of ordinary skill in the art typically use " Ω/\square " as a representation of ohms/square. The instant specification does this. Certainly, the instant specification at page 2, line 26, clearly states that \square means square as is known in the art. Thus, it is respectfully requested that this formality objection to the specification be withdrawn.

Claim 12 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Oda in view of Bartholomew. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 12 requires "plural dispersion heads for discharging independently gaseous compounds for forming the film, means for positioning a bottom discharge end of a former dispersion head closer to a surface of the substrate than is a bottom discharge end of a latter dispersion head, means for conveying the silicon substrate heated to a predetermined temperature in a direction from a position immediately below a discharge port of the former dispersion head to a position immediately below discharge ports of the latter dispersion heads, and a partition provided between the dispersion heads and the silicon substrate, the partition being positioned at a circumference of bottom ends of dispersion ports of the latter dispersion head.

Claim 12 thus requires (a) dispersion heads positioned at different distances from the silicon inclusive substrate; (b) means for conveying the silicon substrate from a dispersion head positioned closer to the silicon substrate toward the other dispersion head; and (c) a partition positioned at a circumference of the dispersion head positioned further from the silicon substrate. For example, see partition 10 in certain example figures, and the instant specification at page 27, lines 18+. The partition is advantageous, for example, in that when heads positioned at different distances from the substrate are used, the partition permits the gas discharged from the head positioned farther to reach a desired site of a substrate surface without significant dissipation (e.g., pg. 14, line 25 to pg. 15, line 9).

The cited art fails to disclose or suggest the combination of (a)-(c) set forth above. Moreover, no cited reference discloses the claimed partition positioned at a circumference of the dispersion head positioned further from the silicon substrate. The cited art is entirely silent with respect to aspect (c) discussed above. Thus, even the alleged combination (which applicant believes would be incorrect in any event) fails to disclose or suggest the invention of amended claim 12.

Claim 14 requires that the means for positioning and means for conveying cause a titanium oxide film to be formed in a non-uniform manner so that a concentration of the dopant element in the film varies through a thickness of the film so that the concentration of the dopant element in the titanium oxide film is higher adjacent a surface of the substrate than at a location spaced further away from the surface of the substrate. For example, see the instant specification at page 22, lines 11-14. The cited art fails to disclose or suggest this aspect of claim 14.

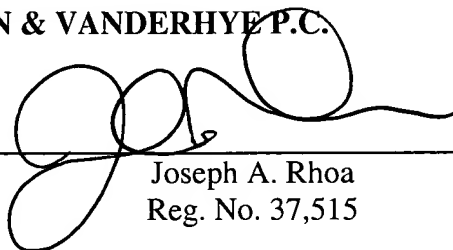
UI et al
Appl. No. 09/930,957
November 1, 2004

For at least the foregoing reasons, it is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By:

A handwritten signature in black ink, appearing to read 'Joe Rhoa', is written over a horizontal line.

Joseph A. Rhoa
Reg. No. 37,515

JAR:caj
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100